

Description: Clip 4 of 5: Danielle and Gregory compare one half and two thirds Parent Tape: Discovering equivalent fractions and introducing fraction notation Date: 1993-10-04 Location: Colts Neck Elementary School Researcher: Professor Carolyn Maher	Transcriber(s): Yankelewitz, Dina Verifier(s): Yedman, Madeline Date Transcribed: Spring 2009 Page: 1 of 4
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- 7.0.115 T/R 1: I'm wondering which is bigger, one half or two thirds. [pauses] Now before you model it you might think in your head, before you begin to model it what you is bigger and if so, if one is bigger, by how much. Why don't you work with your partner and see if you can figure it out.
- 7.0.302 Danielle: Well, we've got, we've got that whole, this is the whole, we have the three thirds, and we then the half
- 7.0.303 T/R 3: And what we supposed to figure out after we did that?
- 7.0.304 Danielle: Which is bigger a half or two thirds?
- 7.0.305 T/R 3: Oh, I want to know. Is it still the same or does it change when your model changes?
- 7.0.306 Danielle: Two thirds is still bigger.
- 7.0.307 T/R 3: How much? [Danielle begins to line up white rods] Let's line 'em up. Two thirds is bigger, but now I want to know by how much. Can you figure that? [Gregory passes white rods to Danielle. Talk about getting white rods] You need some more whites. Uh, how many more do you think you need? A bunch? Takes a lot, doesn't it? How many do you think...
- 7.0.308 Danielle: Eighteen.
- 7.0.309 T/R 3: Hmm. So how much larger?
- 7.0.310 Danielle: It's bigger
- 7.0.311 Gregory: One eighteenth
- 7.0.312 T/R 3: [Danielle begins to dismantle her model to show the comparison] You can use some more of these if you want
[T/R 1 talks to class about writing about more than one solution]
- 7.0.313 Danielle It's bigger by three eighteenths.
- 7.0.314 T/R 3: My goodness, tell me, help me remember what it was over there.
- 7.0.315 Danielle: It was bigger by one, one sixth.
- 7.0.317 T/R 3: Ok, so does that mean we have a different answer? No? This is different from the other one or the same?
- 7.0.318 Danielle: It's different in a way and it's the same in a way
- 7.0.319 T/R 3: How's it different and how's it the same?
- 7.0.320 Danielle: Well, it's the same because the half is smaller and it's different because, um, this one, it only ta- the little box are only um, two three four, there's only six of them and here's there's eighteen, and this, the thirds are bigger by three eighteenths
- 7.0.321 T/R 3: You mean, yeah, the two thirds are bigger by three eighteenths
- 7.0.322 Danielle: and the two thirds over here is bigger by one sixth
- 7.0.323 T/R 3: Mmm hmm. And so you think that you get a different answer if you have different models? As to how much bigger? I agree with you, you're saying that two thirds is still bigger, but it it bigger by a different thing?

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- 7.0.324 Danielle: Well, [long pause]
- 7.0.325 T/R 3: [to Gregory] You're still looking for another way to do it? That doesn't quite work, does it? We found one way over here, we found this way, it seems to me there ought to be something in between, is that what you're thinking? Hmm, I wonder if there's another way. Hmm, she used the orange and the brown, is there something smaller than the brown that you could put together that would work, no add onto the orange? She added the brown to the end of the orange and that got hers to work. This, is there something smaller than this brown that would work attached to this? You tried that one, it didn't work. Let's try this one and see if it can work. Why don't you try the orange and the red. [to Danielle] I'm still concerned about, about whether the three eighteenths is a different answer from the one sixth. You said here that if you have two thirds and a half, oh, there, you said over here [to Gregory] now you have to see if you can do it with thirds, is that right? [to Danielle] Hmm. Look, we have a different model over here, even. So now we have three. I wonder if it's going to be the same as yours, or if it's going to be the same as this one. Is two thirds still bigger, Greg, is two thirds still bigger than a half, on this model too, or did it change? [they get another box of rods] Ok, Danielle, what do you think about this time? [Gregory's two models –Figure F-44-17]
- 7.0.326 Danielle: Well, um, two thirds
- 7.0.327 T/R 3: What is two thirds? Can you build a two thirds and a one half for him separate so we can then compare?
- 7.0.328 Danielle: Here's the two thirds, and here's the half
- 7.0.329 T/R 3: What's the difference?
- 7.0.330 Danielle: and it's bigger by two [counts Gregory's white rods] twelfths. It's, um, it's bigger by two twelfths
- 7.0.331 T/R 3: Oh, so is he getting a different answer from that, too, or are they the same? How are the answers, I don't understand, what do you think about this?
- 7.0.332 Danielle: One, two three
- 7.0.333 T/R 3: Over here it was how much?
- 7.0.334 Danielle: This one was bigger by three eighteenths
- 7.0.335 T/R 3: And this one?
- 7.0.336 Danielle: Was bigger by... how much?
- 7.0.337 Gregory: Two twelfths. One two three four five six seven eight nine ten eleven twelve.
- 7.0.338 T/R 3: And your original one was
- 7.0.339 Danielle: It was bigger by one sixth.
- 7.0.340 T/R 3: Oh, so what do you think?

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- 7.0.341 Danielle: I think they're all different, but then all the same. Cause they're the same because the thirds are always bigger than the half
- 7.0.342 T/R 3: The two thirds are always bigger than the half?
- 7.0.343 Danielle: And, um, and they're different because these are all, the whites
- 7.0.344 Gregory: they're different sizes
- 7.0.345 Danielle: They're all different, like one, two, uh three, they're different. So they're different like that.
- 7.0.346 T/R 3: Mmm hmm. Is there any other way that you could show that difference here than with the whites? It's the only way you could show it there, isn't it? I don't mean for you to change your model, I mean, is there any other way that you could show me what that difference looks like without using the whites? Or this difference here?
- 7.0.347 Danielle: You could use a light green
- 7.0.348 T/R 3: What would that be?
- 7.0.349 Danielle: That would be one [starts to line up light green rods –Figure F-47-56] That would be one sixth.
- 7.0.350 T/R 3: Hmm. And what did you say it was over here, with the little one?
- 7.0.351 Danielle: Um, that's one sixth
- 7.0.352 T/R 3: Mmm hmm. So if you used the light green
- 7.0.353 Danielle: It could be one sixth
- 7.0.354 T/R 3: It could be one sixth. And if you used the whites
- 7.0.355 Danielle: It would be three eighteenths
- 7.0.356 T/R 3: Mmm hmm. What about for this one?
- 7.0.357 Danielle: What problem-
- 7.0.358 T/R 3: It was this one here [pointing to Gregory's model using the orange and red]. Uh, Gregory, I want you to watch and see if you agree with what Danielle is doing here. [Danielle lines up red rods on Gregory's model]
- 7.0.359 Danielle: [After lining up and counting six red rods, Danielle shows that he two white rods that show the difference between one half and two thirds is equal in length to the one red rod-Figure F-49-02] And then that would be one sixth too.
- 7.0.360 T/R 3: Mmm, over each of 'em?
- 7.0.361 Danielle: That would be one sixth, that would be one sixth, and that one would be one sixth.
- 7.0.362 T/R 3: But you have, had two, two different names for the answer if you did it this way it was
- 7.0.363 Danielle: It was two twelfths
- 7.0.364 T/R 3: And, and, uh, Gregory, for this one over here, where she had the three, what was the name for that one?
- 7.0.365 Gregory: Three eighteenths.

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7.0.366

T/R 3: Yeah, it was.